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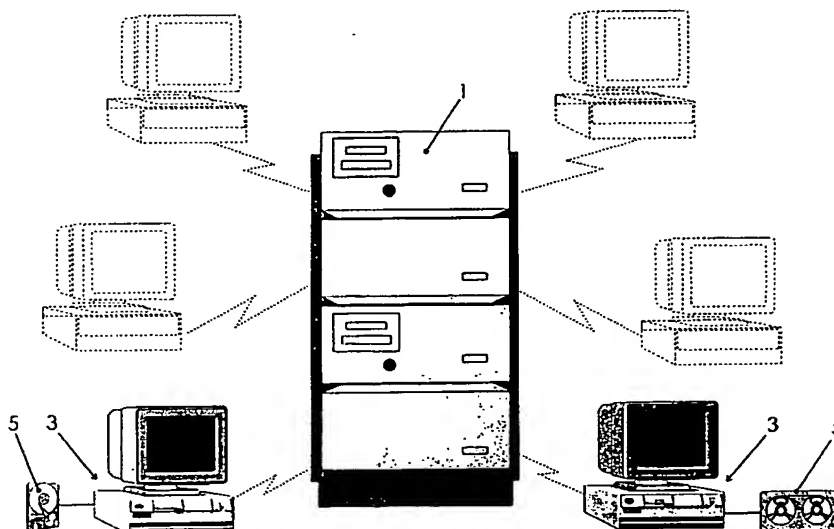
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(54) Title: **COMPUTER-IMPLEMENTED DIDACTIC/OPERATING PROCESS FOR TRAINING USERS IN SUBJECTS TO BE LEARNED**



(57) Abstract: A computer-implemented didactic/operating process, for training users in subjects to be learned, comprises the steps of: connection of a user to a central management system (1); unloading of a program-environment to the user's local system (3); check and possible registration of the user by the central system (1); purchasing data files for subjects to be learned and possible extension programs of the program-environment; automatically creating a Personal Download Area reserved to the user with the data files; activating the program-environment and downloading the data files; disconnection of the local system (3); and activation of the data files and extension programs for realising a training session.

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COMPUTER-IMPLEMENTED DIDACTIC/OPERATING PROCESS FOR  
TRAINING USERS IN SUBJECTS TO BE LEARNED

The present invention refers to a computer-implemented didactic/operating process for training users in subjects to be learned, and to a computer program product implementing such process.

With the increasing diffusion of networks of computers (particularly Internet), there are nowadays always more and more applications that are made available to users by service providers. Among the currently-available applications, however, there are no procedures that allows informing, professionally training and work supporting, in any field of human knowledge, users that are able to be connected to a public network in order to obtain such service.

Object of the present invention is solving the above prior-art problems, by providing a process that supplies users connected to a network with information, professional training and work support services. This occurs through the global management

of didactic files with capabilities dealing with downloading from the network, customisation of use, protection from unauthorised uses and local display of downloaded files. The characteristics of the process of the present invention are better obtained by using a software environment program and a series of external data files that can be downloaded by connecting to the network.

The above and other objects and advantages of the invention, as will appear from the following description, are obtained by a computer-implemented didactic/operating process as claimed in Claim 1, and by a computer program product as claimed in Claim 20. Preferred embodiments and non-trivial variations of the present invention are claimed in the dependent Claims.

The present invention will be better described by some preferred embodiments thereof, given as a non-limiting example, with reference to Figure 1 of the enclosed drawings, which contains a representation of a possible network connection diagram to which the process of the present invention can be applied.

The process of the invention is substantially based on the following elements:

- a program-environment for managing and organising the files containing seminars subjects (from now on generically defined as "data files", even if such terms means, in this context, those files containing any type of didactic seminars with which the process of the invention is adapted to operate). Such program-environment comprises some basic operating tools and has the chance of embedding other ones upon the user's choice (see the following element "extension programs"); finally, the program-environment can perform direct connections to remote servers (such as for example the central system 1 in Fig. 1) through a File Transfer Protocol (FTP);
- modular data files containing seminars related to different didactic subjects chosen by the user; and
- possible extension programs of the program-environment (the so-called "plug-in programs") for expanding the control potentialities of the program-environment itself.

As can be seen in Fig. 1, the process of the invention is adapted to be used with a network configuration comprising, in a very schematic way, at least one central management system 1 and a plurality of local systems 3 connected to such

central system 1, for example through the Internet network.

It will be obvious for the skilled people in the art that many other connection configurations are possible among systems, that are much more complex than this schematically-shown one, with which the process of the invention can operate in a similarly efficient way, and that all fall within the scope of the present invention, since the process herein described is wholly independent from the system configuration on which it has to operate.

The computer-implemented didactic/operating process for training users in subjects to be learned of the invention first of all comprises the steps of:

- connection of one of the users to the central management system 1;
- in case the user does not own a local management program-environment of the process, downloading the program-environment from the central system 1 to the local system 3 of the user;
- check of the registration of the user by the central system 1 and, in case of lack of registration, enabling a management procedure of

the user;

- purchasing, by the user, a data file for subjects to be learned and possible extension programs of the program-environment;
- automatically creating a Personal Download Area (PDA) reserved to the user, where the area PDA contains the data files and the possible extension programs;
- activating, by the user, the program-environment, that, once activated, connects itself to the area PDA and downloads the data files and the possible extension programs contained therein, and loads them into the local system 3 of the user;
- disconnection of the local system 3 from the central system 1; and
- activation of the data files and the possible extension programs for realising the training session.

The area PDA is physically contained in the central system 1, but could be physically found placed in other suitable sites.

In particular, then, during the step of downloading, the program-environment is structured

in such a way as to automatically enable the downloaded data files and the possible extension programs for an immediate use by the user.

The step of downloading is performed by downloading only those data files containing the currently interesting subjects according to a modular structure depending on a plan of studies set by the user, providing for the process of the invention a very high flexibility of use for automatic and manual settings by the user.

In view thereof, the data files contain cross-connections to other data files in order to develop a training process comprising a bidirectional passage between different data files. Moreover, the process of the invention further comprises the step of manually selecting by the user some data files that are available to be downloaded, according to his particular needs.

Currently, according to the more advanced, but obviously non-limiting, technical embodiment of the invention, the step of downloading occurs by using a FTP (File Transfer Protocol) protocol, that is nowadays the most widespread and efficient method for transferring files in networks.

According to a detailed arrangement of the

process of the invention, the step of activating the program-environment comprises the following sub-steps:

- entering some personal data, the personal data also comprising a user name for a following identification in the area PDA and for crediting all purchased seminars in an electronic commerce area of the central system 1;
- generation by the program-environment of a key that is used for customising the program-environment and afterwards to customise one's own seminars;
- generation by the program-environment of a password for identifying the user together with the user name within the area PDA of the central system 1 and for crediting data files purchased in the electronic commerce area;
- writing, by the program-environment, inside an identification file, all user data and meaningful data of the local system 3;
- writing, by the program-environment, on a storage unit 5 (of the fixed type, such as for example a hard disk, or of the removable type) chosen by the user, a particular copy of the

identification file: such copy is an authorisation file within which installation is disabled. This mode allows a single installation at a time of the program-environment with a single identity. In fact, when a user wishes to install the program-environment with his own certain identity on another computer, he will have to locate the authorisation file inside the computer where the authorised program-environment resides and follow the "de-authorisation" procedure. Once being de-authorised, the program-environment will not be able to be used any more, while on the contrary the authorisation file will have another authorisation enabled inside. Upon a following installation, the user identity will again be able to be transferred to another program-environment, also on another computer, through the autorisation file;

- writing, by the program-environment, of a positive authorisation inside the local identification file;
- closing the step of activating.

In particular, in the inventive process, the step of activating the program-environment and

connecting to the area PDA comprises the following sub-steps:

- activating the program-environment to start a study session or to download data files from the area PDA;
- checking, by the program-environment, whether the identification file is present;
- in case the identification file is present, checking, by the program-environment, meaningful data of the local system 3 with data being present inside the identification file;
- in case of a positive check, checking, by the program-environment, whether a positive authorisation is present; and
- in case a positive authorisation is present, making the program-environment available for use.

Moreover, in more detail, the process of the invention further comprises the steps of:

- connection to a network through a provider of connection services;
- activating the program-environment that is connected to the central system 1 in FTP mode through the TCP/IP protocol; the program-

environment transfers to the central system 1 the correct password and user name for the specific remote area PDA;

- after entering the area PDA, checking, by the program-environment, whether ones' own identification file is already present, the identification file containing therein all user data entered upon activation and the codes of all possibly purchased data files;
- in case the identification file is not present in the area, downloading, by the program-environment, the identification file in the remote area PDA in order to make it available for a following connection;
- in case the user is already registered in the area PDA, downloading, by the program-environment, the identification file on the local system 3 of the user;
- downloading, by the program-environment, from the are PDA of the file containing a list of possible available demonstration data files;
- checking, by the program-environment, inside the local identification file, which data files the program-environment is authorised to download

after possible performed purchases; the check is performed also inside the available demonstration files;

- preparing, by the program-environment, a list of data files authorised to be downloaded by the connected user;
- selecting, by the user, from the list appeared on his local system 3, the data files that he wishes to download and confirming the beginning of downloading operations;
- downloading, by the program-environment, the data file in a temporary directory;
- customising, by the program-environment, the data file with its own serial number;
- closing the remote connection to the central system 1 by the program-environment;
- loading a data file by the user;
- checking, by the program-environment, that the loaded data file is present among those files that have been purchased by the user in the local identification file;
- comparing, by the program-environment, the serial number inside the data file with its own serial number;

- in case of a positive result of the checks, enabling, by the program-environment, the displaying of the required data files.

The step of activating the data files and possible extension programs for realising a training session is in particular performed through the steps of:

- using a modular and expandable methodology for the data files;
- using different study and work resources for the data files;
- customising the plan of studies of the user; and
- directly interacting with the machines that are studied.

The step of using a modular and expandable methodology for the data files, in turn, is realised through the sub-steps of:

- loading one or more data files in memory;
- selecting the data file to be used through a suitable menu;
- displaying the data file through a plurality of multimedia/interactive resources being present depending on didactic needs;
- automatically searching for further information

- on a subject or different subjects, by opening further data files or, at local level, with a chance of uploading, or, through a network, with a chance of purchasing;
- saving a current work comprising all data files status and program-environment customisation; and
- work closing.

· Instead, the step of using different study and work resources for the data files is implemented through the sub-steps of:

- loading one or more data files in memory;
- selecting the data file to be used through a suitable menu;
- displaying the data file through a plurality or multimedia/interactive resources being present depending on didactic needs;
- using particular tools integrated into the program-environment that facilitate using the didactics and extend its efficiency: such tools are, for example, of the block notes, bookmark, autolocator, shuttle control type, etc.;
- loading one or more available extensions of the program-environment, allowing to widen a

program-environment capability both at didactic level and at professional level;

- saving a current work comprising all data files status and program-environment customisation; and
- work closing.

Moreover, the step of customising the plan of studies of the user comprises the sub-steps of:

- loading one or more data files in memory;
- selecting the data file to be used through a suitable menu;
- displaying the data file through a plurality of multimedia/interactive resources being present depending on didactic needs;
- automatically searching for further information on a subject or different subjects, by opening further data files or, at local level, with a chance of uploading, or, through a network, with a chance of purchasing;
- saving a current work comprising all data files status and program-environment customisation; and
- work closing.

Finally, the step of directly interacting with

the machines being studied is implemented through the sub-steps of:

- loading one or more data files in memory;
- selecting the data file to be used through a suitable menu;
- displaying the data file through different resources being present depending on didactic needs;
- opening an external communication channel with the device being taught by the data file; and
- using the device through didactic functions of the data file.

The data files used for didactic purposes by the process of the invention can deal with any field of human knowledge; according to the already practically implemented embodiment of the invention, such files comprise in particular operating procedures related to professional audio instruments, thereby allowing the users to learn the operation of very complex instruments, for which a theoretical-practical direct course would be realised with difficulties.

Some preferred embodiments of the invention have been disclosed, but obviously they are subjected to

further modifications and variations within the same inventive idea. For example, the above-mentioned didactic files could be prepared for a very high number of fields in human knowledge (history, geography, sciences, arts, technique, etc.) to which a process of this type can then be applied.

Moreover, the process of the present invention, due to its structure, is adapted to be implemented through a computer program product, but obviously other equivalent solutions are possible with which the above-described process can be enacted.

**CLAIMS**

1. Computer-implemented didactic/operating process for training users in subjects to be learned, said process comprising the steps of:
  - connection of one of said users to a central management system (1);
  - in case said user does not own a local management program-environment of said process, downloading of said program-environment from said central system (1) to a local system (3) of said user;
  - check of a registration of said user by said central system (1) and, in case of lack of registration, enabling a management procedure of said user;
  - purchasing, by said user, a data file for subjects to be learned and possible extension programs of said program-environment;
  - automatically creating a Personal Download Area (PDA) reserved to said user, said area PDA containing said data files and said possible extension programs;
  - activating, by said user, said program-

- environment, said activated program-environment connecting itself to said area PDA and downloading the data files and the possible extension program contained therein and loading them into said local system (3) of said user;
- disconnection of said local system (3) from said central system (1); and
  - activation of said data files and said possible extension programs for realising the training session.
2. Process according to Claim 1, characterised in that said area PDA is physically contained in said central system (1).
3. Process according to Claim 1, characterised in that, during said step of downloading, said program-environment automatically enables the downloaded data files and the possible extension programs for an immediate use by the user.
4. Process according to Claim 1, characterised in that said step of downloading is performed by downloading only those data files containing ( the currently interesting subjects according to a modular structure depending on a plan of studies set by the user.

5. Process according to Claim 4, characterised in that said data files contain cross-connections to other data files in order to develop a training process comprising a bidirectional passage between different data files.
6. Process according to Claim 1, characterised in that it further comprises the step of manually selecting by the user some data files that are available to be downloaded.
7. Process according to Claim 1, characterised in that said step of downloading occurs by using a FTP (File Transfer Protocol) protocol.
8. Process according to Claim 1, characterised in that said step of activating said program-environment comprises the following sub-steps:
  - entering some personal data, said personal data also comprising a user name for a following identification in the area PDA and for crediting all purchased seminars in an electronic commerce area of said central system (1);
  - generation by the program-environment of a key that is used for customising said program-environment and afterwards to customise one's own seminars;
  - generation by the program-environment of a

password for identifying the user together with said user name within the area PDA of said central system (1) and for crediting data files purchased in the electronic commerce area;

- writing, by the program-environment, inside an identification file, all user data and meaningful data of said local system (3);
- writing, by the program-environment, on a storage unit (5) chosen by the user, a particular copy of said identification file, said copy being an authorisation file within which installation is disabled;
- writing, by the program-environment, of a positive authorisation inside the local identification file;
- closing said step of activating.

9. Process according to Claim 8, characterised in that said storage unit (5) is of a fixed type.

10. Process according to Claim 8, characterised in that said storage unit (5) is of a removable type.

11. Process according to Claim 1, characterised in that said step of activating said program-environment and connecting to said area PDA comprises the following sub-steps:

- activating the program-environment to start a study session or to download data files from the area PDA;
- checking, by the program-environment, whether the identification file is present;
- in case the identification file is present, checking, by the program-environment, meaningful data of said local system (3) with data being present inside the identification file;
- in case of a positive check, checking, by the program-environment, whether a positive authorisation is present; and
- in case a positive authorisation is present, making the program-environment available for use.

12. Process according to Claim 1, characterised in that it further comprises the steps of:

- connection to a network through a provider of connection services;
- activating the program-environment that is connected to said central system (1) in FTP mode through a TCP/IP protocol, said program-environment transferring to said central system (1) the correct password and user name for the

specific remote area PDA;

- after entering the area PDA, checking, by the program-environment, whether one's own identification file is already present, said identification file containing therein all user data entered upon activation and codes of all possibly purchased data files;
- in case the identification file is not present in the area, downloading, by the program-environment, the identification file in the remote area PDA in order to make it available for a following connection;
- in case the user is already registered in the area PDA, downloading, by the program-environment, the identification file on the local system (3) of the user;
- downloading, by the program-environment, from the area PDA of the file containing a list of possible available demonstration data files;
- checking, by the program-environment, inside the local identification file, which data files the program-environment is authorised to download after possible performed purchases, said checking step being performed also inside the

available demonstration files;

- preparing, by the program-environment, a list of data files authorised to be downloaded by the connected user;
- selecting, by the user, from the list appeared on his local system (3), the data files that he wishes to download and confirming the beginning of downloading operations;
- downloading, by the program-environment, the data file in a temporary directory;
- customising, by the program-environment, the data file with its own serial number;
- closing the remote connection to the central system (1) by the program-environment;
- loading a data file by the user;
- checking, by the program-environment, that the loaded data file is present among those files that have been purchased by the user in the local identification file;
- comparing, by the program-environment, the serial number inside the data file with its own serial number;
- in case of a positive result of said checks, enabling, by the program-environment, a

displaying of the required data files.

13. Process according to Claim 1, characterised in that said step of activating the data files and possible extension programs for realising a training session is performed through the steps of:

- using a modular and expandable methodology for the data files;
- using different study and work resources for the data files;
- customising the plan of studies of the user; and
- directly interacting with the machines that are studied.

14. Process according to Claim 13, characterised in that said step of using a modular and expandable methodology for the data files comprises the sub-steps of:

- loading one or more data files in memory;
- selecting the data file to be used through a suitable menu;
- displaying the data file through a plurality of multimedia/interactive resources being present depending on didactic needs;
- automatically searching for further information

on a subject or different subjects, by opening further data files or, at local level, with a chance of uploading, or, through a network, with a chance of purchasing;

- saving a current work comprising all data files status and program-environment customisation; and
- work closing.

15. Process according to Claim 13, characterised in that said step of using different study and work resources for the data files comprises the sub-steps of:

- loading one or more data files in memory;
- selecting the data file to be used through a suitable menu;
- displaying the data file through a plurality or multimedia/interactive resources being present depending on didactic needs;
- using particular tools integrated into the program-environment that facilitate using the didactics and extend its efficiency, said tools being of the block notes, bookmark, autolocator, shuttle control type, etc.;
- loading one or more available extensions of the

program-environment, allowing to widen a program-environment capability both at didactic level and at professional level;

- saving a current work comprising all data files status and program-environment customisation; and
- work closing.

16. Process according to Claim 13, characterised in that said step of customising the plan of studies of the user comprises the sub-steps of:

- loading one or more data files in memory;
- selecting the data file to be used through a suitable menu;
- displaying the data file through a plurality of multimedia/interactive resources being present depending on didactic needs;
- automatically searching for further information on a subject or different subjects, by opening further data files or, at local level, with a chance of uploading, or, through a network, with a chance of purchasing;
- saving a current work comprising all data files status and program-environment customisation; and

- work closing.

17. Process according to Claim 13, characterised in that said step of directly interacting with studied machines comprises the sub-steps of:

- loading one or more data files in memory;
- selecting the data file to be used through a suitable menu;
- displaying the data file through different resources being present depending on didactic needs;
- opening an external communication channel with a device being taught by the data file; and
- using the device through didactic functions of the data file.

18. Process according to any one of the previous Claims, characterised in that said data files are didactic seminars.

19. Process according to any one of the previous Claims, characterised in that said data files comprise operating procedures related to professional audio instruments.

20. Computer program product adapted to realise the didactic/operating process according to any one of the previous Claims.

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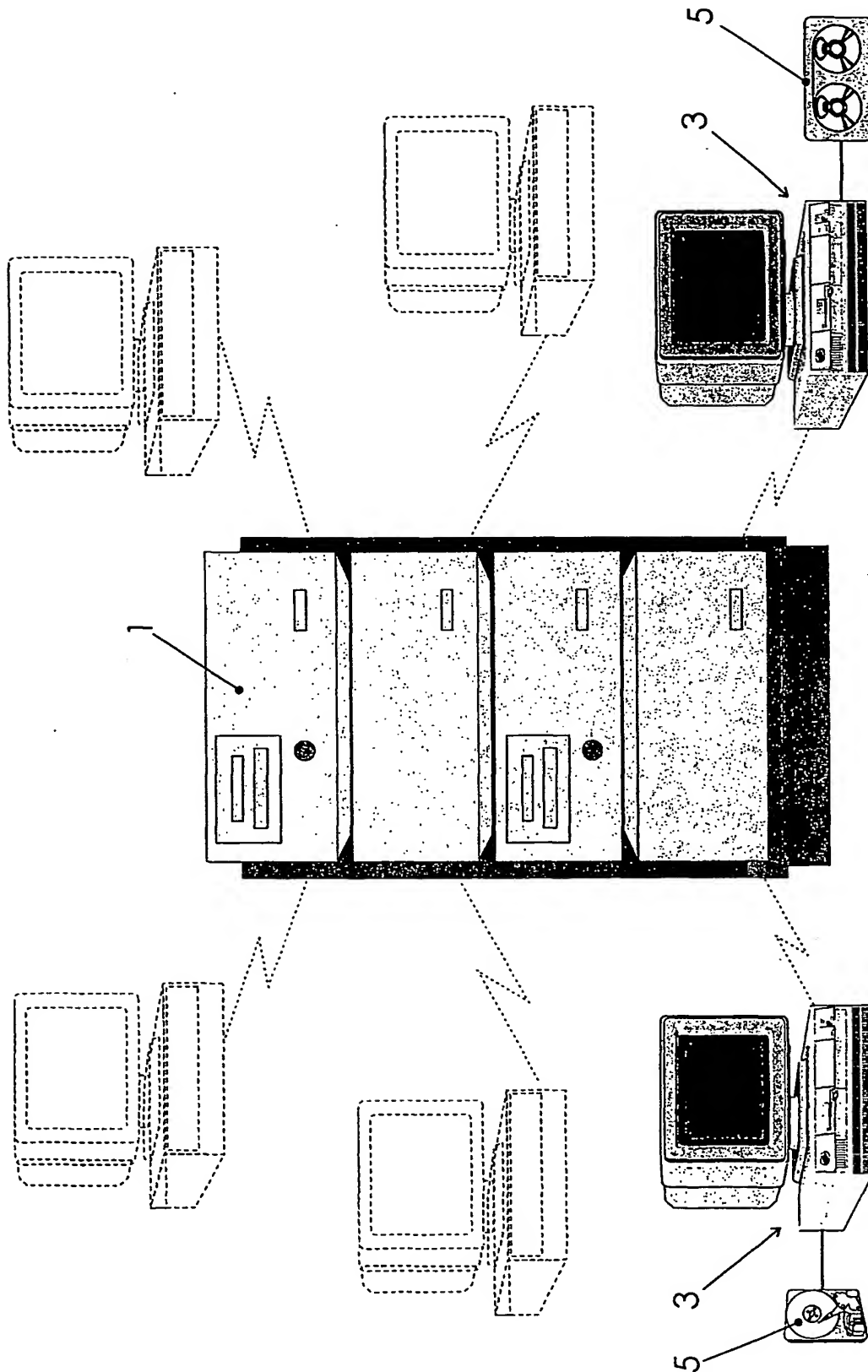


Fig. 1

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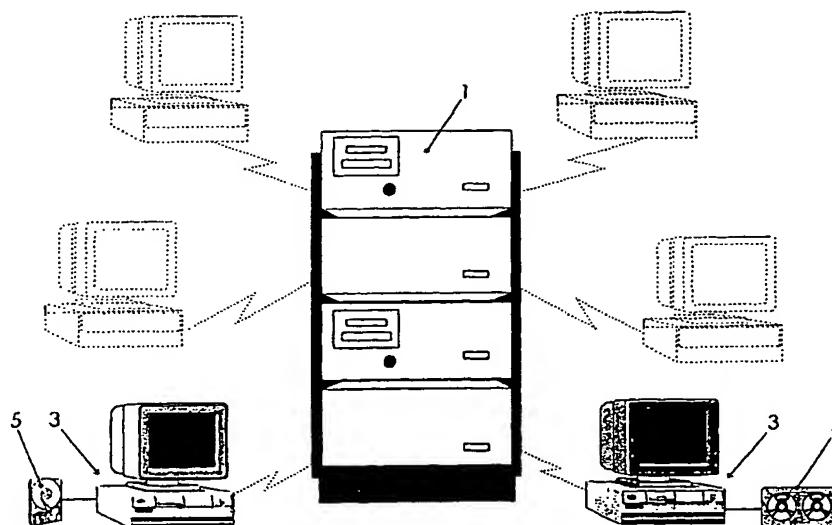
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(54) Title: COMPUTER-IMPLEMENTED DIDACTIC/OPERATING PROCESS FOR TRAINING USERS IN SUBJECTS TO BE LEARNED



(57) Abstract: A computer-implemented didactic/operating process, for training users in subjects to be learned, comprises the steps of: connection of a user to a central management system (1); unloading of a program-environment to the user's local system (3); check and possible registration of the user by the central system (1); purchasing data files for subjects to be learned and possible extension programs of the program-environment; automatically creating a Personal Download Area reserved to the user with the data files; activating the program-environment and downloading the data files; disconnection of the local system (3); and activation of the data files and extension programs for realising a training session.

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International Application No.

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## A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F G09B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 5 727 950 A (PADWA DAVID J ET AL) 17 March 1998 (1998-03-17) column 1, line 52 - line 64 column 10, line 59 -column 11, line 16 column 15, line 29 -column 18, line 38 column 27, line 8 - line 67 column 34, line 1 -column 37, line 51 column 40, line 1 -column 47, line 67 ---	1-7, 18-20 8-17
X	US 5 907 831 A (NEMES RICHARD MICHAEL ET AL) 25 May 1999 (1999-05-25) figures 4,,14,,15A column 3, line 11 -column 6, line 44 column 7, line 11 - line 66 column 9, line 21 -column 10, line 18 column 11, line 6 -column 13, line 16 --- -/--	1-3,6,7, 18-20

☒ Further documents are listed in the continuation of box C.

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## INTERNATIONAL SEARCH REPORT

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